CALIFORNIA REGIONAL WATER QUALITY CONTROL REGIONAL BOARD

SAN FRANCISCO BAY REGION

ORDER No. R2-2003-0029

NPDES PERMIT NO. CA0037958

AMENDING WASTE DISCHARGE REQUIREMENTS FOR:

NOVATO SANITARY DISTRICT

NOVATO

MARIN COUNTY

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FINDINGS

The California Regional Water Quality Control Regional Board, San Francisco Bay Region (the Regional Board) finds that:

1. On May 25, 1999, the Regional Board adopted Order No. 99-036, Waste Discharge Requirements, renewing National Pollutant Discharge Elimination System Permit (NPDES Permit) No. CA0037958 for the Novato Sanitary District (the Discharger) to discharge treated wastewater to San Pablo Bay, a water of the State and the United States (the existing permit).

Discharge Description

2. The Discharger owns and operates two municipal wastewater treatment facilities, the Novato Treatment Plant (also referred to as E-001) and the Ignacio Treatment Plant (also referred to as E-002) (collectively the Waste Water Treatment Plants – the WWTPs). The WWTPs collect sanitary waste from a primarily residential service area serving the Novato area. The WWTPs use one combined effluent discharge outfall (the combined discharge) to the intertidal mud flats of San Pablo Bay adjacent to the former Hamilton Air Force Base (the receiving water). This is a shallow water discharge. Discharge is prohibited annually from June 1 through August 31, and the prohibition period is limited because the discharge likely has minimal impact to the intertidal area of San Pablo Bay immediately before and after the dry weather season. The Discharger's current annual average dry weather flow (ADWF) is 5.4 million gallons per day (MGD), from both WWTPs into San Pablo Bay.

3. The Novato Treatment Plant (E-001) processes wastewater by primary clarification, activated sludge, secondary clarification, nitrification, gravity filtration, and disinfection with hypochlorite. The actual treatment processes used may vary depending on influent flow. The Novato Plant's ADWF of 4.53 MGD includes treatment with all unit processes. Wet weather flows up to 9 MGD receive complete treatment. Wet weather flows between 9 MGD and 16 MGD receive primary

treatment plus gravity filtration and disinfection. Wet weather flows above 16 MGD receive only gravity filtration and disinfection.

4. The Ignacio Treatment Plant (E-002) processes wastewater by primary clarification, biofiltration with trickling filters, secondary clarification, nitrification, gravity filtration and disinfection with hypochlorite. The treatment processes vary depending on influent flow. The Ignacio Plant's design ADWF capacity of 2.02 MGD includes treatment with all unit processes. Wet weather flows up to 4.04 MGD receive complete treatment. Wet weather flows above 4.04 MGD receive primary treatment plus nitrification, gravity filtration and disinfection.

5. During the discharge season, September 1 through May 31, combined effluent from both WWTPs is dechlorinated and discharged from a combined outfall (E-003) through a multi-port diffuser about 950 feet offshore at Latitude 122 degrees 29 minutes 00 seconds, Longitude 39 degrees 04 minutes 00 seconds. The discharge is in the intertidal zone adjacent to the former Hamilton Air Force Base. During the summer prohibition period, June 1 through August 30 annually, the effluent is held in reclamation ponds for sprinkler irrigation on Discharger-controlled pasture lands.

Existing Permit Limits

6. The existing permit contains final effluent limits for copper, mercury, and nickel, interim effluent limits for copper and mercury, and provisions for a time schedule to attain compliance with the final effluent limits for those two pollutants. These limits and compliance dates are depicted in Table 1, below.

Table 1. Final and interim limits contained in the existing permit.

Constituent	Units	Final Limits		Interim Limits		Compliance Date
		Daily Average	Monthly Average	Daily Average	Monthly Average	
Copper	µg/L	4.9		22		May 25, 2006
Mercury	µg/L		0.025		0.052	May 25, 2006
Nickel	µg/L	7.1				n/a

7. The Discharger requested at a March 5, 2002 meeting that the Regional Board consider certain amendments to the existing permit, as discussed in Finding 9, below. The amendments requested by the Discharger are consistent with NPDES permits adopted for other, similar WWTPs.

8. Section 13263(e) of the Porter-Cologne Water Quality Control Act [1998] allows permits to be reopened, stating in part:

> " Upon application by any affected person, or on its own motion, the Regional Board may review and revise requirements. All requirements shall be reviewed periodically."

Scope of Order

9. Based on Regional Board staff's evaluation of the Discharger's request (as further described in the Permit Amendments, below) this Order contains the following amendments to the existing permit:

- evaluation of whether copper, mercury and nickel have reasonable potential to cause or contribute to exceedences of water quality objectives (have reasonable potential), as determined pursuant to Section 1.3, and other provisions, of the State Water Resource Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Policy - the SIP) as adopted on March 2, 2000.

- recalculation of final water quality based effluent limits (WQBELs) for copper and mercury, consistent with SIP Section 1.4;

- statistical evaluation of the feasibility of the Discharger immediately complying with the recalculated WQBELs;

- reassessment of interim effluent limits and compliance schedules, consistent with SIP Section 2.1, where immediate attainment of final WQBELs is infeasible;

- relocation of the ammonia monitoring point from the individual plants (Novato Treatment Plant, E-001, and Ignacio Treatment Plant, E-002) to the combined discharge outfall (E-003); and

- reducing the monitoring frequency for settleable matter from five times per week to monthly and increasing the monitoring frequency for total suspended solids (TSS) and biochemical oxygen demand (BOD_5, 20 °C) to five times per week.

Antidegradation and Antibacksliding

10. This Order contains interim performance-based effluent limits (IPBLs) for copper and mercury, and continues the current interim mass-based effluent limit for mercury. Interim limits are not subject to antibacksliding requirements, pursuant to State Water Resources Control Board Water Quality Order No. 2001-06. The copper IPBL complies with antidegradation requirements and with antibacksliding, to the extent that it is applicable, because it is the same as the IPBL contained in the permit as adopted.

    The mercury IPBL is higher than the IPBL contained in the permit as adopted (0.087 µg/L vs. 0.052µg/L), and the mercury mass-based effluent limit is the same as that contained in Order No. 99-036. The interim mercury IPBL and mass-based effluent limit comply with antibacksliding requirements and with antibacksliding, to the extent that it is applicable, because the mass-based effluent limit will hold the WWTPs' mercury loading to San Pablo Bay to current levels. Additionally, in the event that antibacksliding applies, the mercury IPBL is subject to the exception in Section 402(o)(2)(B)(i) of the Clean Water Act because it is based on new information developed since the permit was adopted. The new information is contained in the June 11 2001 *Staff Report, Statistical Analysis of Pooled Data from Region-Wide Ultra-clean Mercury Sampling* (the June 2001 staff report).

CEQA and Public Notice of Action

11. This Order serves as an amendment to NPDES Permit No. CA0037958, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.

12. The Discharger and interested agencies and persons have been notified of the Regional Board's intent to amend the requirements for the existing discharge and have been provided an opportunity to submit their written comments and recommendations. The Regional Board's responses to comments (attached) are hereby incorporated by reference.

13. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 99-036 is amended as described in the following items. To distinguish the original language contained in Order No. 99-036 from that contained in this Order, amendments are highlighted by underlining additions and ~~striking through~~ deletions, except for those specified as "Add," "Remove," or "Replace." All numbered elements of the existing permit shall be considered as having been renumbered to accommodate additions and deletions contained in this permit amendment.

Permit Amendments

1. Replace Finding 15 with:

– 15. Water quality objectives, criteria, effluent limitations, and calculations contained in this Order are based on the statutes, documents, and guidance detailed in Section III of the attached Fact Sheet, which is incorporated here by reference.

2. Remove Findings 17 and 18.

3. Amend Finding 26 to read:

26. *Water Quality Based Effluent Limitations.* Toxic substances are regulated by water quality based effluent limitations (WQBELs) derived from the Regional Board's June 21, 1995 *Water Quality Control Plan San Francisco Bay Basin (Region 2)* (the Basin Plan), Tables 3-3 and 3-4, ~~USEPA national water quality criteria listed in Basin Plan Tables 3-3 and 3-4,~~ the U.S. EPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (the California Toxics Rule, or the CTR), the U.S. EPA's *National Toxics Rule* (the NTR), ~~the USEPA Gold Book,~~ and/or best professional judgment as defined in Section III of the attached Fact Sheet. Further details about the effluent limitations contained in this Permit are given below and in the attached Fact Sheet.

4. Replace Finding 28 with:

28. Reasonable Potential Analyses

Title 40 CFR Section 122.44(d)(1)(i) requires NPDES permits to include limits for all pollutants which have the reasonable potential to cause or contribute to an exceedence of an applicable water quality standard (that have reasonable potential). In 1999, Regional Board staff conducted a complete reasonable potential analysis using effluent data from 1996 to 1998 (the 1999 RPA) to evaluate the whether the effluent had reasonable potential with respect to one or more of the toxic priority pollutants. Regional Board staff used the State Board's draft *Proposed Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed Bays, and Estuaries in California* (Draft SIP, September 1997) and U.S. EPA guidance documents for the 1999 RPA. Where there were no State-adopted water quality objectives promulgated at that time, the 1999 RPA employed the U.S. EPA Gold Book, a Regional Board site-specific copper study, and the Basin Plan narrative objective for tributyltin. The

1999 RPA employed the conservative assumption that the discharge receives no dilution, consistent with the shallow water discharge finding, above. Numeric final WQBELs were calculated for each of the priority pollutants determined to have reasonable potential. Table 2, below, depicts partial results of the 1999 RPA.

Table 2. Results of 1999 RPA and Effluent Limits Contained in the Current NPDES Permit.

Constituent	99% PEQ, µg/L	WQO, µg/L	Reasonable Potential ?	Final WQBELs	
				Daily Average, µg/L	Monthly Average, µg/L
Copper	74	4.9	yes	4.9	
Mercury	1.26	0.025	yes		0.025
Lead	5.6	5.6	yes	5.6	
Nickel	18	7.1	yes	7.1	
Selenium	1	5	no		
Silver	4.4	2.3	yes	2.3	
Zinc	68.8	58	yes	58	
Phenol	12	30	no		
Tributyltin	no data	0.04	no		
PAHs	all values N.D., above WQO	0.049	no		
Cyanide	57	5	yes	5.0	
Arsenic	3.6	36	no		
Cadmium	1.12	9.3	no		
Chromium	19.2	50	no		

a. In 2002, Regional Board staff conducted a limited RPA on copper, mercury and nickel effluent data from May 1999 through April 2002 using procedures in Section 1.3 of the SIP (the 2002 RPA). Pursuant to Section 1.3 of the SIP, the 2002 RPA does not include dilution for any pollutant. A complete RPA will be conducted in 2004 as part of the Discharger's NPDES permit renewal process.

i. The RPA identifies the observed maximum concentration (MEC) in the effluent for each pollutant, based on effluent concentration data.

ii. There are three triggers in determining reasonable potential:

1) The first trigger is activated if the MEC is greater than the lowest applicable WQO (MEC ≥ WQO), which has been adjusted for pH and translator data, if appropriate. If the MEC is greater than the adjusted WQO, then that pollutant has reasonable potential, and a WQBEL is required.

2) The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO (B>WQO), and either:

i) the MEC is less than the adjusted WQO (MEC<WQO), or

ii) the pollutant was not detected in any of the effluent samples and all of the detection levels are greater than or equal to the adjusted WQO.

If B is greater than the adjusted WQO, then a WQBEL is required.

3) The third trigger is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even if both MEC and B are less than the WQO. A limit may be required under certain circumstances to protect beneficial uses.

b. Table 3, below, depicts the results of the 2002 RPA. The 2002 RPA findings, numeric final WQBELs where required, feasibility determinations, and interim limits and compliance schedules – as appropriate - are set out in more detail in Findings 34 and 35, below.

Table 3. Results of 2002 RPA results and limit calculations.

Constituent	Water Quality Objective, µg/L	MEC, µg/L	Reasonable Potential	WQBELs, µg/L		Immediate Attainment Feasible?	IPBLs, µg/L	
				MDEL	AMEL		Daily Max.	Monthly Avg.
Copper	3.7[1]	19	Yes[2]	4.9	2.4	No	22	
Mercury	0.025	0.101	Yes[2]	0.041	0.025	No	[3]	0.087
Nickel	7.1	6.9	No	n/r[4]	n/r[4]	n/a	n/r[4]	n/r[4]

Footnotes to Table 3.

1. WQO derived from CTR saltwater criterion of 3.1 µg/L and default translator of 0.83 contained in the CTR.

2. Reasonable potential by trigger 1), above (MEC > WQO) .

3. Only monthly average IPBL computed for mercury –see June 11, 2001 *Staff Report, Statistical Analysis of Pooled Data from Region-Wide Ultra-clean Mercury Sampling* (the June 2001 staff report)

4. No reasonable potential, therefore WQBELs not required (n/r) (see Table A in the attached Fact Sheet).

5. Replace Finding 29 with:

29. Constituents Identified in the 303(d) List

On May 12, 1999, the U.S. EPA approved a revised list of impaired water bodies prepared by the State (the 303(d) list), prepared pursuant to provisions of Section 303(d) of the federal Clean Water Act. Section 303(d) of the Clean Water Act requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. San Pablo Bay is listed as impaired by:

- chlordane,
- copper,
- DDT,
- diazinon,
- dieldrin,
- dioxin and furan compounds,

- exotic species,
- mercury,
- nickel,
- total PCBs,
- PCBs (dioxin like), and
- selenium.

6. After Finding 29, add:

30. Assimilative Capacity

Section 2.1.1 of the SIP states that for bioaccumulative compounds on the 303(d) list, the Regional Board should consider whether there is additional assimilative capacity or if mass loadings should be limited to current levels. The Regional Board finds that mass loading limits are warranted for certain bioaccumulative compounds on the 303(d) list for the receiving waters of this discharge (e.g., mercury). Mass loading limits will ensure that this discharge does not contribute further to impairment of the narrative objective for bioaccumulation.

31. Total Maximum Daily Loads (TMDLs) and Waste Load Allocations (WLAs)

a. The Regional Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list in San Francisco Bay – including San Pablo Bay - no later than 2010, with the exception of dioxin and furan compounds. The Regional Board defers development of the TMDLs for dioxin and furan compounds to the U.S. EPA. Future review of the 303(d) list for San Francisco Bay may result in revision of the schedules and/or provide schedules for other pollutants.

b. The TMDLs will establish waste load allocations (WLAs) for point sources such as the Discharger's WWTP and load allocations (LAs) for non-point sources, and will result in achieving the water quality standards for the listed waterbodies. Final effluent WQBELs for 303(d)-listed pollutants in this discharge will be based on WLAs contained in the respective TMDLs.

32. Interim Limits and Compliance Schedules

a. Section 2.1.1 of the SIP states:

" the compliance schedule provisions for the development and adoption of a TMDL only apply when: …(b) the Discharger has made appropriate commitments to support and expedite the development of the TMDL. In determining appropriate commitments, the RWQCB should consider the discharge's contribution to current loadings and the Discharger's ability to participate in TMDL development."

The discharger agreed to assist the Regional Board in TMDL development through active participation in and contribution to the Bay Area Clean Water Agencies (BACWA). The Regional Board adopted Resolution No. 01-103, on September 19, 2001, authorizing the Executive Officer of the Regional Board to enter into a Memorandum of Understanding with BACWA and other parties to accelerate the development of Water Quality Attainment Strategies, including TMDLs, for the San Francisco Bay-Delta and its tributaries.

b. The SIP and the Basin Plan authorize compliance schedules in a permit for an existing discharge if the Discharger cannot comply immediately with a new, more stringent effluent limitation. This Order establishes a 5-year compliance schedule for copper, as allowed by the CTR and Section 2.2 of the SIP for effluent limits based on CTR or NTR WQCs. This Order establishes a compliance schedule until March 31, 2010 for mercury, as allowed by the Basin Plan. The Basin Plan provides for a 10-year compliance schedule for new standards, commencing on the effective date of the new standard. This provision has been construed as authorizing compliance schedules where new interpretations of existing standards (such as the Basin Plan's numeric water quality objectives) result in more stringent limits than were contained in previous permits. Using SIP methodologies to recalculate limits based on Basin Plan WQOs is considered to be a new interpretation of those WQOs, and some of the recalculated limits are more stringent than those contained in the current permit. Therefore, the Basin Plan provision for compliance schedules is applicable. The Regional Board may take appropriate enforcement actions if interim limits and requirements are not met.

c. Both the SIP and the Basin Plan require the Discharger to demonstrate the infeasibility of achieving immediate compliance with the new limits to qualify for a compliance schedule, and to submit the following documentation to the Regional Board supporting a finding of infeasibility:

   – Descriptions of the Discharger's diligent efforts to quantify pollutant levels in the discharge, pollutant sources into the waste stream, and those efforts' results;

   – Descriptions of source control and/or pollution minimization efforts currently under way or completed;

   – A proposed schedule for additional or future source control measures, pollutant minimization or waste treatment; and

   – A demonstration that the proposed schedule is as short as practicable.

   Until final WQBELs or WLAs are adopted for 303(d)-listed pollutants, state and federal anti-backsliding and antidegradation policies and the SIP require that the Regional Board include interim effluent limitations for them. The interim effluent limitations will be the lower of either current plant performance or the previous permit's limit(s). The mercury interim performance-based limit (IPBL) is based on the results of the 2001 staff report on the statistical analysis of pooled ultraclean mercury data from over 25 municipal wastewater dischargers throughout the Region, as described in Finding 35, below.

d. In addition to interim mercury concentration limits, this Order continues the interim performance-based mercury mass limitation to maintain the discharge's current mass loadings of mercury, a 303(d)-listed bioaccumulative pollutant with reasonable potential.

e. On July 5, 2002, the Discharger submitted a feasibility study (the July 5, 2002 Feasibility Study), asserting it is infeasible to immediately comply with the WQBELs calculated according to SIP Section 1.4 for copper and mercury. Regional Board staff conducted a statistical analysis of recent WWTP performance data with respect to these metals (see Section IV.A.6 of the attached Fact Sheet). Based on that statistical analysis, the Regional Board concurs with the July 5, 2002 Feasibility Study. Therefore, this Order establishes compliance schedules for copper and mercury that extend beyond one year. The SIP requires the Regional Board to establish interim numeric limitations and interim requirements to

control these pollutants. This Order establishes interim limits for copper and mercury based on the previous permit limit or WWTP performance, whichever is more stringent, as described in the findings for specific pollutants, below. Specific bases for these interim limits are described in the findings for each pollutant, and in the Provisions, below.

Also, the Discharger has conducted a mercury source identification study that identified hospitals, dentists, mercury thermometers and certain other household products as significant mercury sources for which reduction strategies are available. It is estimated that up to a 51% reduction in mercury loadings to the Novato Treatment Plant and up to a 32% reduction in mercury loadings to the Ignacio plant may be achieved through pollution prevention. The District is implementing mercury pollution prevention measures as described in Provision E.4. in order to minimize mercury loadings.

f. Since the compliance schedules for CTR criteria and Basin Plan numeric water quality objectives both extend beyond the May 25, 2004 expiration date of the existing permit, the actual final WQBELs for these pollutants are included in the findings of this permit for reference only.

33. Antidegradation and Antibacksliding

The interim limits included in this permit comply with anti-degradation requirements and, to the extent they may apply, anti-backsliding requirements because they hold the Discharger to current facility performance, and because the final limits comply with anti-backsliding requirements.

5. Replace Finding 30 with:

34. Copper

a. *RPA Results* This Order establishes effluent limits for copper because the 19 µg/L maximum effluent concentration in the data set (the MEC) exceeds the governing WQO of 3.7 µg/L, demonstrating reasonable potential by Trigger 1, above. The governing WQO is based on the CTR's WQO of 3.1 µg/L for chronic saltwater protection as modified by using the CTR's default copper translator of 0.83.

b. *WQBELs* The copper WQBELs calculated according to SIP procedures are 4.9 µg/L daily maximum and 2.4 µg/L monthly average. As noted in Finding 19, above, these WQBELs are calculated without dilution because this is a shallow-water discharge.

c. *Immediate Compliance Infeasible* The July 5, 2002 Feasibility Study asserts the Discharger cannot immediately comply with these WQBELs. Regional Board staff statistically analyzed the Discharger's effluent data from May 1999 through April 2002 and determined that the assertion of infeasibility is substantiated for copper (see Section IV.A.6 and Table D of the attached Fact Sheet for detailed results of the statistical analysis).

d. *IPBLs* Because it is infeasible for the Discharger to immediately comply with the copper WQBELs, an IPBL is required. Regional Board staff conducted a statistical analysis of recent WWTP effluent data. Historically, IPBLs have been referenced to the 99.87th percentile value of recent performance data. Statistical analysis indicates the 99.87th percentile value of the WWTPs' recent copper effluent data is 24 µg/L, which is higher than

the 22 µg/L IPBL developed for Order No. 99-036. Therefore, the 22 µg/L IPBL adopted in Order No. 99-036 is retained in the this Order..

e. *Plant Performance and Attainability* During the period May 1999 through April 2002, the WWTPs' effluent MEC for copper was 19 µg/L. Since all effluent copper values were below the 22 µg/L IPBL, it is feasible for the WWTPs to comply with the IPBL.

f. *Term of IPBLs* The copper IPBLs shall remain in force until March 31, 2008 or until the Regional Board amends the limits based on additional data, site-specific objectives, or the Waste Load Allocation in the TMDL. However, during the next permit reissuance, Regional Board staff may re-evaluate the copper IPBLs.

6. Renumber Finding 31 and replace it with:

35. Mercury

a. *RPA Results* This Order establishes limits for mercury because the 0.101 µg/L mercury MEC exceeds the governing WQO of 0.025 µg/L, demonstrating reasonable potential by Trigger 1, above. The governing WQO is based on the Basin Plan's 4-day average saltwater objective (Basin Plan Table 3-3, pg. 3-9).

b. *WQBELs* The mercury WQBELs calculated according to SIP procedures are 0.041 µg/L daily maximum and 0.025 µg/L monthly average. As noted in Finding 19, above, these WQBELs are calculated without dilution because this is a shallow-water discharge.

c. *Immediate Compliance Infeasible* The July 5, 2002 Feasibility Study asserts the Discharger cannot immediately comply with the mercury WQBELs. Regional Board staff statistically analyzed the Discharger's effluent data from May 1999 through April 2002 and determined that the assertion of infeasibility is substantiated for mercury (see Section IV.A.6 and Table D of the attached Fact Sheet for detailed results of the statistical analysis).

d. *IPBL* Due to the infeasibility of the Discharger immediately complying with the mercury WQBELs, this amendment establishes a mercury IPBL of 0.087 µg/L. The 2001 staff report identified two statistically derived interim performance-based effluent limits for mercury, 0.023 µg/L for advanced secondary treatment plants and 0.087 µg/L for secondary treatment plants. Since the Discharger operates secondary treatment plants, the appropriate interim performance-based effluent limit for them is 0.087 µg/L.

e. *Interim Mercury Mass Emission Limit* In addition to the concentration-based mercury IPBL, this Order continues the annual mercury mass loading limit of 0.655 kilograms per year (kg/yr) and monthly mercury maximum mass loading (or "trigger") of 0.032 kilograms per month (kg/mo), as further described in Effluent Limitation B.8. The mass loading trigger initiates additional actions if exceeded, as specified in Provision 5, and is based on the highest calculated 12-month moving average load using discharge season flows.

f. *Plant Performance and Attainability* During the period May 1999 through April 2002, the Discharger's combined effluent mercury concentrations ranged from 0.005 µg/L to 0.101 µg/L and averaged 0.022 µg/L. Although the mercury MEC exceeds the IPBL, Regional Board staff's evaluation of the discharge data indicate that the concentration-

based IPBL is attainable. This evaluation is discussed in more detail in Sections IV.A.6 and IV.A.9 of the attached Fact Sheet. During that same time period, the 12-month moving average mercury mass emissions ranged from 0.16 kg/yr (0.013 kg/mo) to 0.23 kg/yr (0.019 kg/mo). Based on these results, the annual average mass loading limit and trigger values should be attainable by the WWTPs.

g. *Expected Final Mercury Limits* The final mercury WQBELs and the interim mass emission limitation will be revised to be consistent with the WLA assigned in the adopted mercury TMDL. While the TMDL is being developed, the Discharger will comply with performance-based mercury concentration and mass-based limits to cooperate in maintaining current ambient receiving water conditions. Based on the June 30, 2000 Regional Board staff report titled *Watershed Management of Mercury in the San Francisco Bay Estuary: Total Maximum Daily Load Report to U.S. EPA*, municipal sources are a very small contributor of the mercury load to the Bay. Because of this, it is unlikely that the TMDL will require reduction efforts beyond the source controls required by this permit.

7. Amend Effluent Limitation 1a to read:

1. The effluent from E-001 and E-002, combined into a common outfall and discharged to San Pablo Bay during the wet weather period, defined as the period from November 1 through April 30 of each year, and each discharge monitored separately and individually, shall not exceed the following limits in Table 1.a.:

   a. Conventional Pollutant Effluent Limitations for the period of November 1 through April 30 of each year:

Constituent	*Units*	*Annual Average*	*Monthly Average*	*Weekly Average*	*Daily Maximum*	*Instantaneous Maximum*
Biochemical Oxygen Demand (BOD_5, 20°C)	mg/L		30	45	~~60~~	--
Total Suspended Solids	mg/L		30	45	~~60~~	--
Settleable Matter	ml/L-hr		0.1	--	0.2	~~0.2~~
Oil & Grease	mg/L		10	--	20	--
Chlorine Residual[1]	mg/L		--	--	--	0.0
~~Total Ammonia as N~~	~~mg/L~~	~~4.0~~	~~6.0~~			

[1] Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater,* and applied after dechlorination (may be applied to combined effluent, E-003).

At times before and after the "wet weather period" defined above, the following effluent limits in Table 1.b. will be applied to E-001 and E-002 separately, when discharge occurs, with the exception described in 1.c.:

b. Conventional Pollutants Effluent Limitations for any discharge prior to November 1 or after April 30 of each year:

Constituent	*Units*	*Annual Average*	*Monthly Average*	*Weekly Average*	*Daily Maximum*	*Instantaneous Maximum*
Biochemical Oxygen Demand (BOD_5, 20°C)	mg/L		15		30	
Oil and Grease	mg/L		5		15	
Total Suspended Solids	mg/l		10		20	
Settleable Matter	mL/L/hr		0.1		0.2	~~0.2~~
Chlorine Residual [1]	mg/L					0.0
~~Total Ammonia as N~~	~~mg/L~~	~~4.0~~	~~6.0~~			

[1] Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater,* and applied after dechlorination (may be applied to combined effluent, E-003).

At times before and after the "wet weather period" defined above, the following effluent limits in Table 1.c. will be applied to E-002 separately, when discharge occurs. The Ignacio Treatment Plant will have 99.7th percentile performance based interim limits for BOD and TSS, listed on the last two rows of the table, until the 0.5 MGD capacity transfer and plant upgrade is operational. After the plant upgrade is operational, the BOD and TSS limits for Ignacio will be those listed in Table 1.b

c. Interim Performance Based Conventional Pollutants Effluent Limitations for Ignacio Treatment Plant, E-002 discharge prior to November 1 or after April 30 of each year.

Constituent	*Units*	*Annual Average*	*Monthly Average*	*Weekly Average*	*Daily Maximum*	*Instantaneous Maximum*	*Time Schedules*
Oil and Grease	mg/L		5		15		
Settleable Matter	mL/L/hr		0.1		0.2	~~0.2~~	
Chlorine Residual [1]	mg/L					0.0	
~~Total Ammonia as N~~	~~mg/L~~	~~4.0~~	~~6.0~~				
Interim Biological Oxygen Demand (BOD_5, 20°C)	mg/L		22		44		March 31, 2008[1]
Interim Total Suspended Solids	mg/L		23		46		March 31, 2008[1]

Footnote for Table 1c:

1. These time schedules are subject to compliance with the conditions of Provision E.9, below.

8. Insert after Effluent Limitation Table 2:

5. The ammonia in the combined effluent shall not exceed 4.0 mg/L as an annual average nor 6.0 mg/L as a monthly average.

9. Amend Effluent Limitation 7 to read:

7.a. Toxic Substances Effluent Limitations: The discharge of combined effluent containing constituents in excess of the following limitations is prohibited [a]:

Constituent	*Units*	*Daily Average [b]*	*Monthly Average [b]*
~~Copper~~	~~µg/L~~	~~4.9~~	
Lead [d]	µg/L	5.6	
~~Mercury~~	~~µg/L~~		~~0.025~~
~~Nickel [d]~~	~~µg/L~~	~~7.1~~	
Silver	µg/L	2.3	
Zinc [d]	µg/L	58	
Cyanide [c]	ug/l	5.0	

b. Interim Effluent Limitation: The following interim limits shall apply ~~in lieu of the above limits~~ until the date specified in the time schedule below and according to Provisions 3 and 4 for copper and mercury, respectively [a].

Constituent	*Units*	*Daily ~~Average~~ Maximum [b]*	*Monthly Average [b]*	*Time Schedule*
Copper	µg/L	22 ~~[e]~~		~~May 25, 2006~~ March 31, 2008
Mercury	ug/l		~~0.052[f]~~ 0.087	~~May 25, 2006~~ March 31, 2010

Footnotes:

a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.

b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).

c. The discharger may demonstrate compliance with this limitation by measurement of weak acid dissociable cyanide.

d. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four.

~~e. The interim copper limit will become effective in accordance with the compliance schedule specified in Provision 3. The WQBEL established in 7.a. shall become effective in 7 years unless a revised WQBEL is established prior to that time. The copper limit is based on the 99.7th percentile of the January 1996 through December 1998 data. This limit is solely for the purposes of this permit and only for the duration specified in the permit.~~

~~f. The interim limit in 7.b. shall apply for mercury until either a revised WQBEL is established or the 7-year compliance schedule is over, at which time the limit specified in 7.a. shall apply. The mercury limit is based on the 95th percentile of the 1996 through 1998 data. This limit is solely for the purposes of this permit and only for the duration specified in the permit. The interim mercury limits will become effective with the compliance schedule specified in Provision 3.~~

10. Replace Provision E.4 with:

The District has implemented an aggressive source control program for mercury as documented in the following submittals to the Regional Board:

- Mercury Reduction Study Plan, July 1999
- Mercury Source Reduction Final Report, November 2001
- Mercury Reduction Pollution Prevention Plan and Schedule, July 2002

As described in the above reports, the estimated load from mercury sources in the service area were identified by sampling for mercury in residential and commercial areas, conducting literature review, developing a business inventory and water use records. The study also evaluated the potential for optimizing mercury removal in the treatment process. This information was then used to identify the most effective means of reducing mercury concentrations in the discharge including 1) reducing discharge of amalgam waste from dentists, 2) reducing the discharge of mercury from medical clinics and laboratories, and 3) encouraging the disposal of household mercury-containing products at the District's household hazardous waste facility.

The District also participates in regional efforts to implement a mercury pollution prevention program including the North Bay Watershed Association Water Quality Committee and the Bay Area Pollution Prevention Group of the Bay Area Clean Water Agencies.

The mercury reduction program is being implemented in accordance with the following time schedule.

Tasks	Compliance Date
1. Develop and maintain a database of dental offices, medical clinics and laboratories.	June 30, 2003
2. Implement semi-annual outreach visits, newsletters, or events targeting mercury discharge minimization for these organizations.	December 1, 2003
3. Implement semi-annual outreach efforts including newsletters or events informing households and businesses of proper disposal of mercury-containing products in conjunction with the District's Household Hazardous Waste Facility.	January 1, 2004
4. Document the mercury pollution prevention program in the District's Semi Annual Pollution Prevention Report.	July 15, 2003
5. Document the mercury pollution prevention program in the District's Annual Pollution Prevention Report.	January 15, 2004

11. Replace Provision E.9 with:

9. Compliance schedule for conventional effluent limitations at Ignacio Plant

By April 30, 2004, the Discharger shall submit a workplan, acceptable to the Executive Officer, detailing the tasks and time schedule required for the Ignacio plant to attain compliance with the technology-based effluent limits for Biochemical Oxygen Demand (BOD_5, 20°C) and Total Suspended Solids (TSS) as depicted in 1b, above. The workplan shall identify measures that will enable the Discharger to accelerate progress towards the compliance with the final technology-based limits within the shortest timeframe possible, and before the March 31, 2008 compliance schedule ends.

12. After Provision E.9 add:

10. 303(d)-listed Pollutants Site-Specific Objective and TMDL Status Review

The Discharger shall participate in the development of a TMDL or site-specific objective for copper, mercury, selenium, 4,4'-DDE, and dieldrin. By January 31 of each year, the Discharger shall submit an update to the Board to document its participation efforts toward development of the TMDL(s) or site-specific objective(s). The Discharger's may meet this update requirement by continuing its participation in BACWA's cooperative efforts to accelerate development of Water Quality Attainment Strategies, as described in Finding 32, above. However, should BACWA not submit its required progress reports on time, then the Discharger will remain responsible for the annual progress update. This Order may be reopened in the future to reflect any changes required by TMDL development.

13. Amend Table 1 of the Self Monitoring Program to read:

Sampling Station:	A-1\ A-2	E-001-D\E-002-D			E-003			P	C	O
Type of Sample: **Parameter (units) [notes]**	C-24 [1]	G [2]	C-24 [2]	Co [2]	G [2]	C-2 [2]	Co [2]	Ob [1]	G [2]	Ob [1]
Flow Rate (mgd) [3]	D			D						
BOD_5 (mg/L & kg/d) - [4]	~~1/W~~ 3/W		3/W							
Total Susp. Solids (mg/l & kg/d) - [4]	~~1/W~~ 5/W		~~3/W~~ 5/W							
Chlorine Residual (mg/L) [5]						Co				
Settleable Matter (ml/L-hr)		~~5/W~~M								
Oil & Grease (mg/L & kg/d) - lbs/day [6]		M								
Total Coliform (MPN/100 ml)		3/W								
Acute Toxicity (% Surv.) [7]						M				
Chronic Toxicity [8]						3M				
Ammonia Nitrogen (mg/L & kg/d)		~~3/W~~			3/W					
pH (units)		5/W								
Temperature (^oC)		5/W								
Dissolved Oxygen (mg/l & % Sat)		5/W								
Sulfides, Total & Dissolved (mg/L/l) (if D.O. < 2.0 mg/L/l)		5/W								
All Applicable Standard Observations								M		E

Footnotes and legends for SMP Table 1 are unmodified.

14. Order Effective Date, Expiration and Reapplication

This Order shall become effective May 1, 2003, provided the U.S. EPA Regional Administrator has no objection. If the U.S. EPA Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

This Order expires on May 25, 2004.

In accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code, the Discharger must file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissue of this permit and waste discharge requirements.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 16, 2003.

LORETTA K. BARSAMIAN

Executive Officer

Attachment A: Facility Location Map

Attachment B: List of online references

Attachment C: Fact Sheet

Attachment D: Novato Sanitary District's July 5, 2002 Feasibility Study

Attachment A

Facility Location Maps

Attachment B

List of online references

Standard Language And Other References Available Online

Document	URL
Standard Provisions and Reporting Requirements, August 1993	http://www.swrcb.ca.gov/~rwqcb2/Agenda/04-17-02/res74-10standprov.doc
Board Resolution No. 74-10: Policy Regarding Waste Discharger's Responsibilities to Develop and Implement Contingency Plans to Assure Continuous Operation of Facilities for the Collection, Treatment and Disposal of Waste	http://www.swrcb.ca.gov/~rwqcb2/Agenda/04-17-02/res74-10.doc
Staff Report: Statistical Analysis of Pooled Data from Regionwide UltraClean Mercury Sampling for Municipal Dischargers	http://www.swrcb.ca.gov/~rwqcb2/Agenda/04-17-02/potwhgstatisticreport.pdf
August 6, 2001 Regional Board letter: Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy	http://www.swrcb.ca.gov/~rwqcb2/Agenda/04-17-02/sip13267final.doc

Attachment C

Fact Sheet

Attachment D

Novato Sanitary District's July 5, 2002 Feasibility Study